

Serial No. 09/707,723
Art Unit 1745

2

In the Claims:

Please cancel Claims 29, 30, 45, 46, 61 and 62 without prejudice.

Please amend Claims 25, 26-28, 31, 38, 39, 41, 42-44, 47, 55, 57, 58-60, 63, 70 and 71 as follows:

25. (Amended) A battery pack, comprising:

a case containing a plurality of cells, the cells are divided into at least one first cell group and at least one second cell group, each said first and second cell group including at least one cell and having a heat load distinct from the others, and the one first cell group is located generally in the center of the battery pack,

at least one air passage formed within the case for allowing cooling air outside the case to enter the case at an upstream portion of the at least one air passage and to pass at least one of along and between the cells, and exit from the case at a downstream portion of the at least one air passage, and wherein at least two of the second cell groups oppose the first cell group along branches of the least one air passage, and

radiator means provided in the at least one air passage so as to be in contact with an outer surface of each of the cells, the radiator means having a plurality of portions each corresponding to each of the cells to form a plurality of radiator plates having different heat capacities, each radiator plate being in contact with one of the first and second cell groups, wherein the portions have different heat capacities according to a heat load of the corresponding cell, wherein the heat capacity of each portion of the radiator means is determined by the area of contact of the portion with the corresponding cell.

26. (Amended) A battery pack in accordance with claim 25, wherein the heat capacity of each portion of the radiator means is further determined by the thickness of the portion.

27. (Amended) A battery pack in accordance with claim 25, wherein the heat capacity of each said portion of the radiator means is further determined by the material of the portion.

Serial No. 09/707,723
Att Unit 1745

3

28. (Amended) A battery pack in accordance with claim 25, wherein the heat capacity of each said portion of the radiator means is further determined by any combination of the area of contact of the portion with the corresponding cell, the thickness of the portion, and the material of the portion.

31. (Amended) A battery pack in accordance with claim 25, wherein the radiator plates include a first radiator plate and two second radiator plates, the first radiator plate surrounding the first cell group at its outer periphery and each of the second radiator plates abuts inner surfaces of one of the second cell groups, and wherein the first radiator plate has a smaller heat capacity than each of the second radiator plates.

38. (Amended) A battery pack in accordance with claim 25, wherein the second cell groups are symmetrical and include an equal number of cells and the first cell group includes fewer cells than each of the second cell groups.

39. (Amended) A battery pack in accordance with claim 25, wherein each second cell group has inner surfaces in contact with one of the second radiator plates, and each second cell group is arranged in a single row of cells bent at one intermediate cell toward the inner surface, the portion of each second radiator plate corresponding to the intermediate cell includes two bulges adjacent to the intermediate cell so that the intermediate cell interposes therebetween.

41. (Amended) A battery pack, comprising:

a case containing a plurality of cells, the cells are divided into at least one first cell group and at least one second cell group, each said first and second cell group including at least one cell and having a heat load distinct from the others, the one first cell group is located generally in the center of the battery pack,

at least one air passage formed within the case for allowing cooling air outside the case to enter the case at an upstream portion of the at least one air passage and to pass at least one of along and between the cells, and exit from the case at a downstream portion of the at least one air

Serial No. 09/707,723
Art Unit 1745

4

passage, and wherein at least two of the second cell groups oppose the first cell group along branches of the at least one air passage, and

radiator means provided in the at least one air passage so as to be in contact with an outer surface of each of the cells, the radiator means having a plurality of portions each corresponding to each of the cells to form a plurality of radiator plates having different heat capacities, each radiator plate being in contact with one of the first and second cell groups, wherein the portions have different heat capacities according to a heat load of the corresponding cell, wherein the heat capacity of each said portion of the radiator means is determined by the thickness of the portion.

42. (Amended) A battery pack in accordance with claim 41, wherein the heat capacity of each portion of the radiator means is further determined by the area of contact of the portion with the corresponding cell.

43. (Amended) A battery pack in accordance with claim 41, wherein the heat capacity of each said portion of the radiator means is further determined by the material of the portion.

44. (Amended) A battery pack in accordance with claim 41, wherein the heat capacity of each said portion of the radiator means is further determined by any combination of the area of contact of the portion with the corresponding cell, the thickness of the portion, and the material of the portion.

47. (Amended) A battery pack in accordance with claim 41, wherein the radiator plates include a first radiator plate and two second radiator plates, the first radiator plate surrounding the first cell group at its outer periphery and each of the second radiator plates abuts inner surfaces of one of the second cell groups, and wherein the first radiator plate has a smaller heat capacity than each of the second radiator plates.

55. (Amended) A battery pack in accordance with claim 41, wherein each second cell group has inner surfaces in contact with one of the second radiator plates, and each second cell group is arranged in a single row of cells bent at one intermediate cell toward the inner surface, the

Serial No. 09/707,723
Art Unit 1745

5

portion of each second radiator plate corresponding to the intermediate cell includes two bulges adjacent to the intermediate cell so that the intermediate cell interposes therebetween.

57. (Amended) A battery pack, comprising:

a case containing a plurality of cells, the cells are divided into at least one first cell group and at least one second cell group, each said first and second cell group including at least one cell and having a heat load distinct from the others, the first cell group located generally in the center of the battery pack,

at least one air passage formed within the case for allowing cooling air outside the case to enter the case at an upstream portion of the at least one air passage and to pass at least one of along and between the cells, and exit from the case at a downstream portion of the at least one air passage, at least two of the second cell groups oppose the first cell group along branches of the at least one air passage, and

radiator means provided in the at least one air passage so as to be in contact with an outer surface of each of the cells, the radiator means having a plurality of portions each corresponding to each of the cells, wherein the portions have different heat capacities according to a heat load of the corresponding cell to form a plurality of radiator plates having different heat capacities each radiator plate being in contact with one of the first and second cell groups, wherein the heat capacity of each said portion of the radiator means is determined by the material of the portion.

58. (Amended) A battery pack in accordance with claim 57, wherein the heat capacity of each portion of the radiator means is further determined by the area of contact of the portion with the corresponding cell.

59. (Amended) A battery pack in accordance with claim 57, wherein the heat capacity of each said portion of the radiator means is further determined by the thickness of the portion.

60. (Amended) A battery pack in accordance with claim 57, wherein the heat capacity of each said portion of the radiator means is further determined by any combination of the area of contact

Serial No 09/707,723
Art Unit 1745

6

of the portion with the corresponding cell, the thickness of the portion, and the material of the portion.

63. (Amended) A battery pack in accordance with claim 57, wherein the radiator plates include a first radiator plate and two second radiator plates, the first radiator plate surrounding the first cell group at its outer periphery and each of the second radiator plates abuts inner surfaces of one of the second cell groups, and wherein the first radiator plate has a smaller heat capacity than each of the second radiator plates.

70. (Amended) A battery pack in accordance with claim 57, wherein the second cell groups are symmetrical and include an equal number of cells and the first cell group includes fewer cells than each of the second cell groups.

71. (Amended) A battery pack in accordance with claim 57, wherein each second cell group has inner surfaces in contact with one of the second radiator plates, and each second cell group is arranged in a single row of cells bent at one intermediate cell toward the inner surface, the portion of each second radiator plate corresponding to the intermediate cell includes two bulges adjacent to the intermediate cell so that the intermediate cell interposes therebetween.